## F.  TRANSITIONING N1-1 TO OFF/DIAGNOSTIC/STANDBY FROM PRIMARY & N1-2 TO PRIMARY FROM STANDBY

1.    VERIFY MDM STATES

PCS1          Node 1: C&DH: MDM N1-1

┌─────────────────────────────┐
│ PRIMARY NCS MDM Node 1 │
└─────────────────────────────┘

√ STATE - Primary
√ MDM ID - N1-1

PCS1          Node 1: C&DH: MDM N1-2

┌─────────────────────────────────┐
│ SECONDARY NCS MDM Node 1 │
└─────────────────────────────────┘

√ STATE - Standby
√ MDM ID - N1-2

┌──────────────────────────────────────────────────────┐
│                          NOTE                          │
│ If states are not correct, do not execute this procedure!  √ **MCC** │
└──────────────────────────────────────────────────────┘

2.    DISABLE NCS AUTO RETRY

PCS1          Node 1: C&DH: MDM N1-2

┌─────────────────────────────────┐
│ SECONDARY NCS MDM Node 1 │
└─────────────────────────────────┘

'Software Control'

sel     MDM Utilities

┌──────────────────────────────────┐
│ Primary_NCS_MDM_Utilities │
└──────────────────────────────────┘

√ Secondary_NCS_Auto_Retry_Inh - X (inhibited)

If blank  (enable)
         sel     Commands
         **cmd**   Second_NCS_Inh_NCS_Retry     **Execute**
         √ Secondary_NCS_Auto_Retry_Inh - X  (inhibited)

3.    COMMAND N1-1 TO DIAGNOSTIC

PCS1          Node 1: C&DH: MDM N1-1

┌─────────────────────────────┐
│ PRIMARY NCS MDM Node 1 │
└─────────────────────────────┘

'Software Control'

sel      MDM FDIR
√ Prim_NCS_Cmd_Xsitn_to_Dgnstc_Inh - <blank>  (enable)
If X (inhibited)

     'MDM Major State'

     sel      Commands
     **cmd**  N1-1_MDM_Cmd_Xsitn_Dgnstc_State_Arm    **Execute**
     sel      MDM FDIR
     √ Prim_NCS_Cmd_Xsitn_to_Dgnstc_Inh - <blank>  (enable)

---

NOTE
1.  Sending the following command will cause the loss of PCS1, Early COMM, and OIU telemetry until OIU reconfiguration and PCS2 reconnection are done.

2.  Possible PDI DECOM Fail message.

---

'MDM Major State:'

sel      Commands
**cmd**  N1-1_MDM_Xsitn_Dgnstc_State    **Execute**
√ Frame Count - <static>  (loss of PCS telemetry)

(N1-2 should go to Primary State after 20 seconds).

    4.    <u>TELEMETRY RECOVERY ON PCS2</u>

PCS2      After boot up, when task -bar appears at bottom of display
        sel      Arrow directly above 'PCS' logo
        sel      Start/Restart PCS CDS
        sel      Icon to open PCS CDS Main Control Panel Window

      √ Status Box is Green and 'Connected' is displayed in the PCS2 CDS
       Main Control Panel Window

---

NOTE
PCS2 connection to MDM is indicated by 'Green' in the Status Box and/or 'Connected' message displayed in the PCS2 CDS Main Control Panel Window.

---

\*     \*     \*     \*     \*     \*     \*     \*     \*     \*
\*  If Status Box is not Green, select 'Connect to MDM' icon to   \*
\*  reconnect.                                           \*
\*  If still no joy, close all displays and all iconified items and   \*
\*  repeat this step.                                 \*
\*  √ **MCC** if Status Box is still not green.           \*
\*     \*     \*     \*     \*     \*     \*     \*     \*     \*

5.   TELEMETRY RECOVERY ON EARLY COMM (GROUND ONLY)

┌─────────────────────────────────────────────────────────┐
│                          NOTE                           │
│ Early  COMM should reconnect to N1-2 MDM on the other Orb bus │
│ automatically in about 10 seconds after N1-2 MDM becomes Primary. │
└─────────────────────────────────────────────────────────┘

Node 1: C&DH: MDM N1-2

┌──────────────────────────┐
│ PRIMARY NCS MDM Node 1   │
└──────────────────────────┘

√ Frame Count - <incrementing>

'MDM Major State:'

√ MDM ID - N1-2
√ MDM State - Primary

*      *      *      *      *      *      *      *      *      *
*   If Frame Count is Static after 20 seconds from the moment    *
*   N1-2 becomes Primary (no Early COMM telemetry received),    *
*                  √ **MCC**                                     *
*      *      *      *      *      *      *      *      *      *

6.   TELEMETRY RECOVERY ON OIU

┌──────────────────────────────────┐
│               NOTE               │
│ Possible PDI DECOM Fail message. │
└──────────────────────────────────┘

CRT

┌──────────────┐
│ SM 212 OIU   │
└──────────────┘
BUS 3 BC - ITEM 11 EXEC
BUS 4 RT - ITEM 14 EXEC
Change OIU N1 Physical Device to N1-2 - ITEM 18 + 3 EXEC

CRT      Reload OIU FORMAT 2 - ITEM 1 + 2 EXEC

CRT      ┌──────────────┐
         │ SM 210 NODE  │
         └──────────────┘
         √ PHY ID PRI MDM   - N1-2
         √ STATE            - PRI
         √ FAIL             - <blank>
         √ FRM CTR          - <incrementing>

7.   VERIFY N1-2 IS PRIAMRY AND N1-1 IS IN DIAGNOSTIC

PCS2     Node 1: C&DH: MDM N1-1

         ┌────────────────────────────┐
         │ SECONDARY NCS MDM Node 1   │
         └────────────────────────────┘

         √ Frame Count - <static>

PCS2          Node 1: C&DH: MDM N1-2

> | PRIMARY NCS MDM Node 1 |

√ Frame Count - <incrementing>

'MDM Major State:'

√ STATE - Primary
√ MDM ID - N1-2

sel     Transmit Mode Code

> | Primary_NCS_Transmit_Mode_Code |

sel     'Primary NCS Xmt Mode Code Commands'
**cmd**   Xmt_Stat_Word_Tmplt
enter   Bus ID - 2
enter   RT Address - 6          **Execute**
√ Subsystem Flag Set - X (set)

(If Subsystem Flag Bit is set, N1-1 MDM is in Diagnostic State and is
ready to accept diagnostic commands)

If transitioning N1-1 to Diagnostic,  >>
If powering off N1-1, go to step 8
If transitioning N1-1 to Standby, go to step 9.

    8.     <u>POWERING OFF N1-1 MDM</u>

PCS2          Node 1: C&DH: MDM N1-1

> | SECONDARY NCS MDM Node 1 |

'RPCM _N1RS1_A'

sel     RPC 11 (Nod1_1_MDM)

> | RPCM _N1RS2_A_RPC_11 Detail |

√ Position - Cl
sel     Commands
**cmd**   Open  **Execute**
√ Position - Op

If powering N1-1 off,  >>

9. <u>TRANSITIONING N1-1 TO STANDBY STATE</u>

PCS2          Node 1: C&DH: MDM N1-2

| PRIMARY NCS MDM Node 1 |

'Software Control'

sel     MDM Utilities
sel     Commands

+--------------------------------------------------------------+
|                          <u>NOTE</u>                         |
| 1.  Startup process will execute from the UAS currently loaded in DRAM. |
|                                                              |
| 2.  No POST is performed.                                    |
+--------------------------------------------------------------+

**cmd**   N1_1_MDM_Re_Init_MDM_DRAM **Execute**

Wait 60 seconds for MDM to reinitialize

PCS2          Node 1: C&DH: MDM N1-1

| SECONDARY NCS MDM Node 1 |

√ Frame Count - <incrementing>

'MDM Major State:'

√ STATE - Standby
√ MDM ID - N1-1

```
*       *       *       *       *       *       *
*          If state is not Standby, √ MCC      *
*       *       *       *       *       *       *
```